

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A high density inductor comprising:

a coil having a spiral shape; and

a core member disposed in such a way as to be located on a path of a magnetic line of force generated by said coil;

wherein said coil has ~~a form in which a plurality of wire layers each of which is made from a base electrode layer or a plurality of plating layers, are piled up in a thickness direction to make a wire of said coil~~ a wire formed by piling up a base electrode layer and a plurality of plating layers in this order along a thickness direction of the wire, and the base electrode layer is formed by a thin film forming process and the plating layers are formed by a plating process.

Claim 2 (Previously Presented): A high density inductor according to claim 1, wherein a ratio of the thickness of said coil to a width of said wire layers is equal to or more than 1.

Claim 3 (Withdrawn): A method for producing a high density inductor comprising the steps of:

forming a coil having a spiral shape;

sealing the coil in the interior of a core member; and

forming a terminal electrode for allowing electric conduction to said coil on the outside of said core member;

wherein said coil is formed by repeating a process of forming a wire layer by means of a thin film forming process and a process of forming an additional wire layer on top of said wire layer by means of the thin film forming process to pile up the wire layers.

Claim 4 (Withdrawn): A method for producing a high density inductor comprising the steps of:

- forming a coil having a spiral shape;
- sealing the coil in the interior of a core member; and
- forming a terminal electrode for allowing electric conduction to said coil on the outside of said core member;

wherein said coil is formed by a process comprising the steps of forming a groove portion corresponding to the shape of the coil in a resist by photo etching, depositing a metal in the groove by plating to form a wire layer, then removing said resist, applying the resist up to a height beyond said wire layer, forming a groove portion on top of said wire layer by photo etching again, then forming an additional wire layer by depositing the metal in the groove portion by plating, and repeating piling-up of the wire layers to form the coil with a predetermined thickness.

Claim 5 (Withdrawn): A method for producing a high density inductor comprising the steps of:

- forming a coil having a spiral shape;
- sealing the coil in the interior of a core member; and
- forming a terminal electrode for allowing electric conduction to said coil on the outside of said core member;

wherein said coil is formed by a process comprising the steps of forming a groove portion corresponding to the shape of the coil in a resist by photo etching, depositing a metal in the groove by plating to form a wire layer, then applying the resist again up to a height corresponding to a next wire layer, forming a groove portion on top of said wire layer by photo etching again, then forming an additional wire layer by depositing the metal in the groove portion by plating, and repeating piling-up of the wire layers to form the coil with a predetermined thickness.

Claim 6 (Withdrawn): A method for producing a high density inductor according to claim 4 or 5, wherein said wire layers are formed by sputtering instead of plating.

Claim 7 (Withdrawn): A method for producing a high density inductor according to any one of claims 3 to 5, wherein said coil is sealed in said core member by forming said coil on a dummy substrate, inserting said coil into said core member while maintaining said state, and then removing a part or the whole of said dummy substrate.

Claim 8 (Withdrawn): A method for producing a high density inductor according to any one of claims 3 to 5, wherein said coil is fixed and sealed by injecting an organic or inorganic adhesive into the interior of said core member and curing the adhesive.

Claim 9 (Withdrawn): A method for producing a high density inductor according to any one of claims 3 to 5, wherein an electrode lead-out portion for said coil is formed on a side surface of said coil either directly or with an insulating layer between after said coil is sealed.

Claim 10 (Withdrawn): A method for producing a high density inductor according to any one of claims 3 to 5, wherein after said coil is sealed, a side surface of said coil is smoothed by grinding, and an electrode lead-out portion for said coil is formed on the side surface of said coil either directly or with an insulating layer between.